

What is "Natural" About Natural Science?:

Philosophical Naturalism in the Evolution Debate

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The theory of evolution is a remarkable scientific accomplishment. The empirical evidence behind the theory is overwhelming. The fact of evolution, that the present species of organisms have come into being over millions of years as a result of gradual changes, is difficult, if not impossible, to gainsay. The theory has been confirmed by the combined efforts of scientists all over the world. The theory is so well tested that those people who criticize it are usually dismissed as Bible-beating religious fanatics, or as unscientific, ignorant, stupid and insane – maybe even wicked. Harvard biologist Dr. Ernst Mayr, an expert on evolution, goes so far as to say that those people who do not believe in the truth of evolution have not received a good education, and the number of unbelievers "casts a lot of poor light on American education."¹ Today, a robust and refined version of Darwin's theory of evolution (neo-Darwinism) takes pride of place in science and philosophy classrooms in America. On the whole, the controversy between science and religion is over and done with. Theology is no longer threatened by the theory of evolution or scared of science finding out truths of the world.

Nevertheless, the so-called Creation scientists continue to argue against the theory of evolution. In good Darwinian fashion, the Creation scientists have had to craft better arguments in order to survive. A new species of Creationists has appeared—the neo-Creationists (neo-creos). They claim that mere evolution is false because there are signs of extra-natural (intelligent) forces at play. They argue that design exists in nature that is not a product of natural processes. What distinguishes the new creationists from the old creationists is that they have learned that the only approach to the question of origins and evolution is the scientific approach. As a result of more than a century of relent-

less accusations of being unscientific and religious, along with failed attempts to push their view in the courtroom, the neo-creos have focused their efforts at unseating the philosophical assumptions of science. They admit that the fossil and molecular data in particular, and the empirical data in general, support the theory of evolution, but they do not admit defeat.

Their new tactic is to turn the tables on the scientific method. They claim that they are not practicing pseudoscience, but rather that it is the Darwinists who are endangering scientific scholarship. The scientific method, they claim, must not rule out the possibility of detecting further reality beyond the causal order of nature. Their main argument – which is not new but has come back with renewed vigor – is that the naturalistic interpretation of the Descent of Life is not science, but a philosophical worldview. If methodological naturalism is expunged from science, as the Creationist reasoning goes, then pure scientific light shall be free to shine on the world as it is, in all of God's glory.

In this paper, I shall argue that naturalism is not a philosophical bias, but an essential foundation of science. The first section of this paper explicates the neo-creo argument against naturalism. The second section is a defense of naturalism against anti- or super-naturalism. The third section is a critique of arguments from design. We shall see why the approach of the neo-creos is unscientific, and that the exclusion of super-naturalism from an explanation of origins is warranted and desirable on both philosophical and scientific grounds.

I. NATURALISM AND ITS CREATION CRITICS

The theory of evolution is usually taken to include Darwin and Wallace's idea of natural selection as the central mechanism of evolution. The theory says that all organisms originated from an undirected, natural, law-bound process of generation, development, mutation and natural selection – what Darwin called "survival of the fittest."

While the details of evolution are complex, a key part of the theory is that evolution happens without any purposeful input – no Creator, no Intelligent Designer. According to Darwin, nature is self-contained; chance and nature determine everything.

Few would deny that organisms have changed over time. The Creationist case against naturalistic evolution is almost exclusively focused on arguing that the theory of evolution is on its own terms a failure. Neo-Creationists oppose the theory that "the full panoply of life has evolved through purposeless naturalistic processes."² The neo-creos point to many mysteries of biology, like the unknown origin of life, sexuality and the genetic code, to argue against the theory of evolution. However, the argument I am primarily interested in for the present purposes is the argument attributed to professor of law and father of neo-Creationism, Phillip E. Johnson, who says that Darwinism is not so much a scientific theory, but a philosophical enterprise whose goal is to explain the world in a strictly naturalistic way that forecloses any role for a Creator or Intelligent Designer. Johnson has made his name by arguing that what has been sold to us in the authoritative name of science is actually a philosophical understanding of reality. As long as we take the fundamental assumption of Darwinism for granted – that naturalistic processes can explain everything – Darwinism, he claims, becomes an absolute theory, seen as necessarily true, because the alternative, Intelligent Design, is automatically vetoed. Therefore, in Johnson's words, "The first step for a twenty-first century science of origins is to separate materialist philosophy from empirical science."³ This means that at the end of the day, scientists are supposed to come back from the field and look at what the evidence shows without a materialist bias and ask if natural forces explain what they see. For example, an anthropologist is supposed to ask herself:

Does the fossil record fit when you look at it objectively and without a Darwinian bias? We know the

answer to that is no. We ask, "Does finch beak variation really show how you can get finches in the first place?" No, of course not. Neo-Darwinism is a failed project - give it up! "Not yet!" you say. "We're still trying to succeed."⁴

The anatomy of the problem, according to the neo-creos is, in short, that empirical science has become confused and conflated with materialist or naturalist philosophy, creating a conflict of interest. Evolutionary scientists, Johnson argues, have an obligation "to separate materialist philosophy from scientific investigation"⁵ and to accept what biologists know as biologists and what archeologists know as archeologists, but not their claims about philosophical issues like naturalism. Johnson appeals to the tide of history by pointing out that "one by one the great prophets of materialism have been shown to be false prophets and have fallen aside. Marx and Freud have lost their scientific standing. Now Darwin is on the block."⁶

Johnson's argument was evidently so convincing, that historian and philosopher Michael Ruse - the philosopher who in 1981 testified in an Arkansas courtroom that creation science has none of the essential features of science and is actually dogmatic religious fundamentalism - changed his opinion on the matter after being asked to comment on Johnson's book *Darwin on Trial*. Ruse, speaking at a 1993 Annual Meeting of the American Association for the Advancement of Science, said:

And it seems to me very clear that at some very basic level, evolution as a scientific theory makes a commitment to a kind of naturalism, namely, that at some level one is going to exclude miracles and these sorts of things, come what may. Now, you might say, does this mean it's just a religious assumption, does this mean it's irrational to do something like this. I would argue very strongly that it's not. At a certain pragmatic level, the proof of the pudding is in the eating. And that if certain things

do work, you keep going with this, and that you don't change in midstream, and so on and so forth. I think that one can in fact defend a scientific and naturalistic approach, even if one recognizes that this does include a metaphysical assumption to the regularity of nature, or something of this nature... *evolution, akin to religion, involves making certain a priori or metaphysical assumptions, which at some level cannot be proven empirically.*⁷

In these words, Ruse is confessing that he has recently come to realize that the theory of evolution is based on unproven philosophical assumptions. Assuring the audience that he is "no less of an evolutionist now than I ever was," Ruse went on to say that "an evolutionist, is metaphysically based at some level, just as much as...some creationist...I must say that I've been coming to this kind of position myself."⁸ Ruse in the early 1980s was of the clear-cut opinion that evolutionism is science and creationism is not. "Now," he says, "I'm starting to feel...that we should move our debate now onto another level...I think that we should recognize, both historically and perhaps philosophically, certainly that the science side has certain metaphysical assumptions built into doing science..."⁹

It is obvious that Johnson's interest in framing the problem in terms of naturalism versus empirical science leaves the door open to the possibility of scientific evidence for design by refuting the naturalist worldview and its consequences. The logic of this strategy is to agree with the evolutionists that science, not philosophy or theology, is the only way to detect intelligent design and intelligent causes, and then to claim that the only epistemically acceptable science is that which is unencumbered by naturalistic philosophy. An acceptable science, suggests creationist William Dembski, is one that rejects "methodological naturalism."¹⁰ This type of call to weed the naturalistic philosophical bias (methodological naturalism) out of the biological sciences is not new. Creationist Duane T. Gish in 1973 says that he:

Strongly suspects that the dogmatic acceptance of evolution is not due, primarily, to the nature of the evidence but the philosophic bias peculiar to our times.... That this is the philosophy held by most biologists has been recently emphasized by Dobzhansky. In his review of Monod's book *Chance and Necessity* Dobzhansky (1972) says, "He has stated with admirable clarity, and eloquence often verging on pathos, the mechanistic materialist philosophy shared by most of the present 'establishment' in the biological sciences."¹¹

In sum, neo-Creationists believe that many aspects of life are too complex to be explained except by reference to an intelligent designer, God. They say that scientists have overlooked evidence of design in nature because of a naturalist philosophical bias. Supporters of this view argue that evolutionary science is thus more metaphysical than an empirical undertaking, because naturalists are necessarily evolutionists and therefore not open to other explanations. In the following sections, we shall see that this is not entirely true. Science does rely on methodological naturalism – the study of matter, energy, and their interaction – in seeking logical explanations and empirical evidence for natural phenomena. However, the theory of evolution is not merely a philosophical worldview. Nor does it have an opinion on the intervention of supernatural powers in the natural world, except that there is no testable way to use this as an operative explanation.

II. TAKING NATURALISM SERIOUSLY

Framing the problem as one between philosophy and science is at best playing cat and mouse with the issue, and at worst unproductive, because it relies on a mistaken division. Taking science out of empirical philosophy is obviously a bad idea. In the words of John Dewey, "For according to empirical philosophy, science provides the only means we have for learning about man and the world in

which he lives."¹² Empirical materialist philosophy has no quarrel with science, and neither do the neo-creos. What they want to do is take the philosophy out of empirical evolutionary science to arrive at a science that is free from presupposition, or at least those presuppositions that they do not like. They have supposed that since science is supreme in the field of knowledge, philosophy is therefore unnecessary and should not contaminate science.

First, I must say that these comments lack any insight into the nature of science. In the words of Max Weber in an essay titled "Science as a Vocation," "No science is absolutely free from presuppositions, and no science can prove its fundamental value to the man who rejects these presuppositions."¹³ For instance, he notes that "All scientific work presupposes that the rules of logic and method are valid."¹⁴ In addition, all scientific work also presupposes naturalism, conceived as the absence of supernatural intervention. Ronald N. Giere defines naturalism as follows:

Ontologically, naturalism implies the rejection of supernaturalism. Traditionally this has meant primarily the rejection of any deity, such as the Judeo-Christian God, which stands outside nature as creator or actor. Positively, naturalists hold that reality, including human life and society, is exhausted by what exists in the causal order of nature.¹⁵

Naturalism is indeed a philosophical worldview, empirical in method, that regards everything that exists or occurs as belonging to one all-encompassing system of nature, however intelligent, spiritual or purposeful nature may appear. The all-encompassing part of naturalism serves mainly negative purposes. It rejects supernatural things and explanations and Cartesian dualisms that can make the existence of the external world a matter of doubt or of God's will. It also rejects arguments from ignorance. Lack of knowledge about something never provides sufficient reason for alleging a non-natural explanation. Moreover, naturalism is not

concerned to disprove the existence of God. "Until and unless the existence of God is shown by empirical evidence," writes Sterling P. Lamprecht in *The Metaphysics of Naturalism*, "it is not an article by which human values and human ideals may be significantly determined or advanced or enforced."¹⁶

It is the task of Philosophy to describe what we have to assume in order to do science, namely, that nature is uniform, self-contained and law-bound. Science must presuppose naturalism for many reasons. For starters, the empirical nature of science must eliminate supernatural interventions as causal factors. The word "science," almost by definition

means that principally there are no mysterious incalculable forces that come into play, but rather that one can, in principle, master all things by calculation. This means that the world is disenchanted. One need no longer have recourse to magical means in order to master or implore the spirits, as did the savage, for whom such mysterious powers existed.¹⁷

Given this worldview, the naturalist is someone who necessarily respects the conclusions of natural science. Both naturalism and the scientific method belong together in theory as they exist together in fact.

Pragmatism is another reason that science presupposes naturalism. John Dewey, who grounded his philosophy in Darwin's philosophical and biological naturalism, writes that "The naturalist...sees how anti-naturalism has operated to prevent the application of scientific methods in the whole field of human and social subject matter."¹⁸ Dewey's defense of naturalism is pragmatic – naturalism is pragmatic, anti-naturalism is not. He argues that anti-naturalism tends to discount the actual resources available for the betterment of humanity. The outcome of science under the "handicap" of anti-naturalism is the systematic disregard by anti-naturalists (neo-creos) of scientific method

and its consequences.¹⁹ The anti-naturalism of the neo-creos tends to "dull their sense of the importance of evidence, to blunt their sensitivity to the need of accuracy of statement, to encourage emotional rhetoric at the expense of analysis and discrimination."²⁰

Furthermore, the impossibility of a scientific anti-naturalism is made explicit by Dewey. For "If they [anti-naturalists] presented the naturalistic position in its own terms, they would have to take serious account of scientific method and its conclusions. But if they should do that, they would inevitably be imbued with some of the ideas of the very philosophy they are attacking."²¹ Dewey is striking a Humean note here by pointing out that arguments against naturalism are self-defeating. Hume's lesson in *An Inquiry Concerning Human Understanding* is that arguments from experience (induction) cannot prove that nature is uniform since these arguments are founded on the supposition of that uniformity. In other words, to decry science for supposing as its foundation the view that principally only calculable, natural forces exist, is to demand that science prove what it cannot logically prove, namely, the foundational principle by which science is possible.

III. CRITIQUE OF ARGUMENTS FROM DESIGN

Intelligent Design is, in part, an argument from analogy. Creation science is alleged to be analogous to what archeologists do when they come across a piece of stone. Certain shapes of stones and patterns knapped on them indicate the intelligent work of prehistoric man. Archeologists infer from an arrowhead or shard of pottery that it was made by some prehistoric person, and not by wind, water or any other natural force. Indeed, intelligent design is something we encounter every day. Entire vocations, like archeology, anthropology, cryptography, even insurance fraud investigation and the criminal justice system, exist on the basis of discriminating design from accident. We commonly recognize design in objects or events that are just too

improbable to have occurred by chance.

Where the Creation scientists fall into error is in extrapolating this analogy to the world as a whole. It is one thing for humans to be able to detect design *within* the world they inhabit and construct. It is quite another for humans to detect design in the very *makeup* of the world itself. Detecting design as a result of supernatural forces is not analogous to detecting design as a result of natural forces. We know how human beings design things and what these things look like, but we do not know how God designs things and what these things would look like. Hume makes this point in the *Dialogues Concerning Natural Religion*. Since all our knowledge comes from experience, we can go from causes to effects, but only insofar as they are specific causes and effects *within* the world. Hume says that we have no idea what it means to say that the whole world is itself an effect, and therefore we cannot go from this premise – that the world as a whole is an effect – to some alleged cause that lies beyond or behind the world.²²

Design reflects more of the manner in which neo-creos approach the world than of the manner in which the world, independent of the human mind, is constituted. Neo-Creationists say that they should be taken seriously because they do not presuppose anything about the world, unlike Darwinists, who view the world through the philosophical lens of naturalism. I need only appeal to Ruse and Weber to point up the flaw in their thinking – no worldview is free of philosophical presuppositions. Creationists proceed from the presupposition that "works of God exist," and then ask "How is their existence detectable in the struggle of life?" Neo-Darwinists, on the other hand, presuppose that God is absent and unnecessary. They proceed from the presupposition that "nature is all there is," and then ask, "How are favored organisms preserved in the struggle for life?" No matter how strong a will, neo-Creationism necessarily presupposes the possibility that God is *not* absent in the struggle of life and thus nature is *not* uniform or self-contained – even though this is not how

neo-creos would see their methodology. This is all one with saying that apart from philosophical super-naturalism or theism or something of the sort, creationism is absurd and meaningless. According to Johnson's standards of scientific acceptability, then, neo-Creationism should *not* be taken seriously because it presupposes that design exists in nature.

Arguments from design are also based on Cartesian reasoning. Descartes argues in the *Meditations* that an effect cannot contain more perfection than its cause. This argument translates into the proposition that *any* design is an effect or manifestation of an intelligent cause, a mind. Neo-Creationists see design in nature and infer causality by something with intelligence. This inference, however, is dubious. When Creationists purport to see design or "information-rich structures of biology"²³ in nature, there is no process of reasoning that can secure them against the contrary supposition that the design they perceive is not really out there in nature, existing even when unperceived, but rather imposed on nature from without. What a Creationist takes to be a sign of intelligent design, the naturalist sees only a product of nature. John Rowland makes this same point by quoting Voltaire,

who said that it was obvious that the nose was designed to bear spectacles, because it fitted them so well. In other words, the evolutionists say that the person who sees some sense of design in the eye or the ear or any other organ of the living creature, sees it because he himself puts it there.²⁴

In short, design is not a basic trait of nature but an illusion which nature easily arouses in human beings.

Finally, a consequence of the different philosophical foundations of the theory of evolution on the one hand, and of creation science on the other, is that a scientist cannot have an honest conversation with a creationist. What each has to say has no persuasive meaning for the other insofar

as they are not willing to question the most basic presuppositions of their respective positions. This is why the controversy and debate between neo-Creationists and neo-Darwinists will in all likelihood never be resolved. A Darwinist cannot approve or go along with those whose beliefs weaken dependence upon the scientific method. As much as Phillip Johnson might argue otherwise, the sacred and supernatural dimension of life witnessed by neo-Creationists simply cannot be seen from the perspective of the scientific attitude.

In conclusion, arguing that evolutionary science is merely a philosophy is utter nonsense. The attempt to separate scientific claims from philosophical claims is naïve because science has to make philosophical assumptions in order to work, as do we in order to live an orderly life. The philosophical assumptions of science are neither irrational nor prejudicial. Rather, naturalistic assumptions and explanations are necessary for doing science. In other words, philosophy is what makes science as a vocation possible and its applications useful and meaningful (pragmatic). We cannot believe the neo-creos when they maintain that they have observed the data objectively, that evolution cannot explain what they observe, and that, therefore, a supernatural intelligent designer is involved by default. Creation science and the theory of evolution both presuppose philosophical, methodological, and metaphysical views. The difference is that the presuppositions of the theory of evolution are continuous with science, while those of Creation science are not.

Notes

¹ Mayr, "An Insatiably Curious Observer Looks Back on a Life in Evolution," *The New York Times*, April 16, 2002, p. D2.

² William A. Dembski, "Introduction: Mere Creation," in *Mere Creation: Science, Faith & Intelligent Design*, edited by William A. Dembski (Illinois: InterVarsity Press, 1998), p. 24.

³ Phillip E. Johnson, "How to Sink a Battleship," in *Mere Creation: Science, Faith & Intelligent Design*, edited by William A. Dembski (Illinois: InterVarsity Press, 1998), p. 449.

⁴ *Ibid.*, p. 450.

⁵ *Ibid.*, p. 451.

⁶ *Ibid.*, p. 453.

⁷ Michael Ruse, "The New Antievolutionism," Speech at a AAAS Symposium, February 13, 1993, <http://www.arn.org/docs/orpages/or151/mr93tran.htm>. my emphasis.

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ Dembski, p. 28.

¹¹ Duane T. Gish, "Creation, Evolution, and the Historical Evidence," in *But Is It Science?*, edited by Michael Ruse. New York: Prometheus Books, 1988. p. 270.

¹² John Dewey, "The Relation of Science and Philosophy as the Basis of Education," in *John Dewey on Education*, edited by Reginald D. Archambault. University of Chicago Press, 1964. p. 15.

¹³ Max Weber, "Science as a Vocation," Originally a speech at Munich University, 1918, <http://tiunet.tiu.edu/acadinfo/cas/socsci/psych/SOC410/Readings/Weber/Works/science.htm>

¹⁴ *Ibid.*

¹⁵ Ronald N. Giere, "Naturalism," in *A Companion to the Philosophy of Science*, edited by W.H. Newton-Smith. Massachusetts: Blackwell, 2000. p. 308.

¹⁶ Sterling P. Lamprecht, *The Metaphysics of Naturalism*. New York: Meredith Publishing, 1967. p. 180.

¹⁷ Weber, p. online.

¹⁸ John Dewey, "Anti-Naturalism in Extremis," in *The Essential Dewey, Vol. 1: Pragmatism, Education, Democracy*, edited by Larry Hickman and Thomas M. Alexander. Indiana University Press, 1998. p. 163.

¹⁹ *Ibid.*, p. 167.

²⁰ *Ibid.*

²¹ *Ibid.*, p. 168.

²² Lamprecht, p. 178.

²³ Dembski, p. 17.

²⁴ John Rowland, *Mysteries of Science: A Study of the Limitations of the Scientific Method*. New York: Philosophical Library, 1957. p. 89.

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